Compound semiconductor equipment manufacturers perform well in VLSI survey

Compound semiconductor equipment manufacturers are well represented in this year's VLSI customer satisfaction survey. Conducted annually, the survey looks at equipment performance and customer service, and asks semiconductor manufacturing equipment users to rank suppliers on a 10 point scale. Equipment performance is measured in terms of: build quality, cost of ownership, uptime, software, usable throughput, quality of results, and product performance. For customer service, the measures are: process support, field engineering support, spares support, support after sales, technical leadership in the supplier's field and the supplier's overall commitment to supporting its customers' needs.

For the second year in succession, Tegal headed the Wafer Processing Equipment (Small Suppliers) category, with an impressive 8.31 overall rating. This achievement marks Tegal's sixth consecutive top ten ranking. Tegal also came first in the Focused Suppliers of Chip Making Equipment category.

There was also success in the Wafer Processing Equipment (Small Suppliers) category for Suss Microtec (second), Aixtron (fourth), Unaxis (sixth) and EV Group (eighth). Suss Microtec was particularly successful, being ranked fourth in the Test & Material Handling Equipment category and fifth in the Assembly Equipment category.

Other compound semiconductor equipment manufacturers to receive prominent ranking included ASML, second in the Large Suppliers of Chip Making Equipment category and third in the Wafer Processing Equipment (Large Suppliers) category, and Accent Optical Technologies, fifth in the Process Diagnostics Equipment category.

Funding and contracts for Kyma

Kyma Technologies Inc, a manufacturer of GaN substrates, has obtained $4m in its Series B round of funding. Led by Digital Power Capital and Siemens Venture Capital, and supported by former Kyma investors, the funding will support commercialisation, product development, and staffing.

"As a leading developer and supplier of semiconductor devices, Siemens is highly familiar with the role of GaN materials in maximizing device performance," said Dr. Kirchner of Siemens Venture Capital. "Kyma's technology is a substantial improvement over current alternatives, and we believe it will become a premier global GaN materials company."

In addition, Kyma has been awarded 4 government contracts, worth a total of $1m. Presented by the Department of Defence and Department of Energy, the contracts will fund Kyma's GaN substrate development.

Ed Pupa, CEO at Kyma, said: "These contracts will allow us to refine our GaN technology for the companies that rely on it."

Point-of-use gas analyser

MKS Instruments Inc announced that in tests performed under production conditions its MultiGas Purity Analyser detected ppb levels of water in a high purity ammonia (NH_3) gas stream. According to MKS, this first point-of-use gas analysis system offers real-time detection of trace impurities in bulk NH_3 gas used in the manufacturing of gallium nitride-based high brightness blue and white LEDs.

Dr Peter Rosenthal, GM of MKS On-Line Products (part of the MKS Instruments & Controls Product Group) said: "Detecting trace water and other oxygen-containing contaminants in NH_3 gas during metal organic chemical vapour deposition (MOCVD) is critical, as water can cause up to 90% reduction in LED yield. Now, for the first time, continuous process monitoring of ppb levels of water and other contaminants in ammonia is possible. The low-level detection capability of the Purity Analyser provides bulk gas suppliers and device makers with a means to detect unacceptable impurity levels before process problems occur, thereby reducing contamination-related risks while maintaining high device yields."

Taiwan funds three year R&D project

Taiwan's Department of Industrial Technology, Ministry of Economic Affairs, has approved funding for a three-year project involving the set up of a new Aixtron R&D centre for production-oriented technology transfer. Others to benefit include: HP, Dell, Becker Avionics and Sony. The common goals of the project are:

- LED materials - quality optimisation and improved yield management.
- High power electronic devices - increase throughput.
- High-k-dielectrics - develop production of key materials for IT Chips.
- Nanotechnology - explore the potentials.
- In-situ process control - cost reduction and performance tuning.
- Technology and process simulation - accelerating time-to-market.
- OVPD technology - enabling advanced OLED display production.

AFM purchase

Veeco Instruments has purchased NanoDevices Inc's atomic force microscope (AFM) probe business, based in Santa Barbara. Don Kania, president of Veeco, commented: "This strategic technology acquisition will help Veeco provide its customers with probes designed specifically to maximize the performance of Veeco's AFMs, and will accelerate our development of new AFM products where innovative probe technology can be the critical element."